

#### WHAT IS CLAIMED IS

1. A cancer-associated gene mina53 comprising ten exons comprising exon 1 as a transcription initiation site on the most upstream side, exon 2 comprising a translation  
5 initiation site, and lastly exon 10 comprising a stop codon.
2. The cancer-associated gene mina53 according to Claim 1, wherein exon 1 consists of exon 1a and exon 1b, and  
10 the exon 1b exists 0.25 kb downstream of the exon 1a.
3. The cancer-associated gene mina53 according to Claim 1 or 2, further comprising exon 5, exon 6 and exon 5' located between exon 5 and exon 6.  
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4. The cancer-associated gene mina53 according to any of Claims 1 to 3, which has a nucleotide sequence designated by SEQ ID No. 1.
- 20 5. The cancer-associated gene mina53 according to any of Claims 1 to 3, which is a mouse cancer-associated gene mina53 having a nucleotide sequence designated by SEQ ID No. 2.
- 25 6. The cancer-associated gene mina53 according to any of Claims 1 to 3, which is a rat cancer-associated gene mina53 having a nucleotide sequence designated by SEQ ID No. 3.
- 30 7. The cancer-associated gene mina53 according to Claims 1 to 6, which encodes a protein with a molecular weight of 53 kDa.
8. The cancer-associated gene mina53 according to any of  
35 Claims 1 to 7, which has a nucleotide sequence binding

to a Myc protein as a transcription factor which regulates expression of said gene.

9. The cancer-associated gene mina53 according to Claims  
5 1 to 8, wherein said protein is localized in the nucleolus.

10. The cancer-associated gene mina53 according to any  
10 of Claims 1 to 9 whose expression is induced by c-myc gene.

11. A human Mina53 protein having an amino acid sequence designated by SEQ ID No. 4 and cell proliferation activity, with regard to the cancer-associated gene  
15 mina53 according to Claim 4.

12. A plasmid encoding the cancer-associated gene mina53 according to any of Claims 1 to 10.

20 13. A plasmid encoding the human Mina53 protein according to Claim 11.

14. A reporter plasmid comprising a human mina53 genomic DNA fragments comprising a specific site of the cancer-  
25 associated gene mina53 according to any of Claims 1 to 10, and luciferase cDNA binding thereto.

15. An antibody against mina53 or Mina53 which is obtained using, as an antigen, the cancer-associated  
30 gene mina53 according to any of Claims 1 to 10, or the human Mina53 protein according to Claim 11 or a fragment thereof.

16. A nucleic acid for regulating the expression of  
35 Mina53, which is used for regulating the expression of

Mina53 using the cancer-associated gene mina53 according to any of Claims 1 to 10 or a fragment thereof.

17. A monoclonal antibody against Mina53 protein.

18. A method for detecting Mina53 protein, which comprises detecting the Mina53 protein in a cancer cell or a cancer tissue using an anti-Mina53 monoclonal antibody against the Mina53 protein.

19. The method for detecting Mina53 protein according to Claim 18, wherein the cancer cell is a colon cell or an esophageal cancer cell.

20. The method for detecting Mina53 protein according to Claim 19, wherein the cancer tissue is a colon cancer tissue or an esophageal cancer tissue.

21. A method of staining Mina53 protein, which comprises staining Mina53 protein expressed in a cancer cell or a cancer tissue using an anti-Mina53 monoclonal antibody against Mina53 protein.

22. A method for staining Mina53 protein, wherein, in the expression method of Claim 21, the cancer cell is a colon cancer cell or an esophageal cancer cell.

23. A method for staining Mina53 protein, wherein, in the expression method of Claim 21, the cancer tissue is a colon cancer tissue or an esophageal cancer tissue.

24. A method for diagnosing cancer, which comprises staining a cancer cell or a cancer tissue according to the staining method of any of Claims 21 to 23.

25. The method for diagnosing cancer according to Claim 24, wherein said cancer is colon cancer or esophageal cancer.